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The Economic

A B Z's

of the

RAILROAD INDUSTRY

Economics and Finance Department

ASSOCIATION OF AMERICAN RAILROADS

1983

PREFACE

The 1983 edition of the Economic ABZ's of the Railroad Industry presents basic facts describing contemporary railroad economics. The publication is offered in a simple statistical format intended for use as an educational tool — both as a primer for those seeking the basic economic tenents of railroading and as a reference source to those who employ such data in their endeavors. Some of the tables which were included in previous editions are no longer particularly relevant and, consequently, have been dropped. Some others have been combined in the interest of conciseness. Each table has a "fighting title" — in essence, a conclusion about some aspect of railroad economics. The tables are organized within eight major categories, as follows:

I. Consist of the Industry
II. Capital Investment
III. Cost of Operations
IV. Demand and Traffic
V. Energy
VI. Financial Performance
VII. Resource Availability and Utilization
VIII. Profiles

Most of the tables included in this document present 10-year trends for the 1972-1982 period. Except where otherwise indicated, Annual Reports (R-1) and quarterly reports to the Interstate Commerce Commission provide the sources of data.

This document should be cited as a source whenever data from it are used.

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I. CONSIST OF THE INDUSTRY

TABLE I-1

RAILROADS ARE ESSENTIAL TO THE ECONOMY

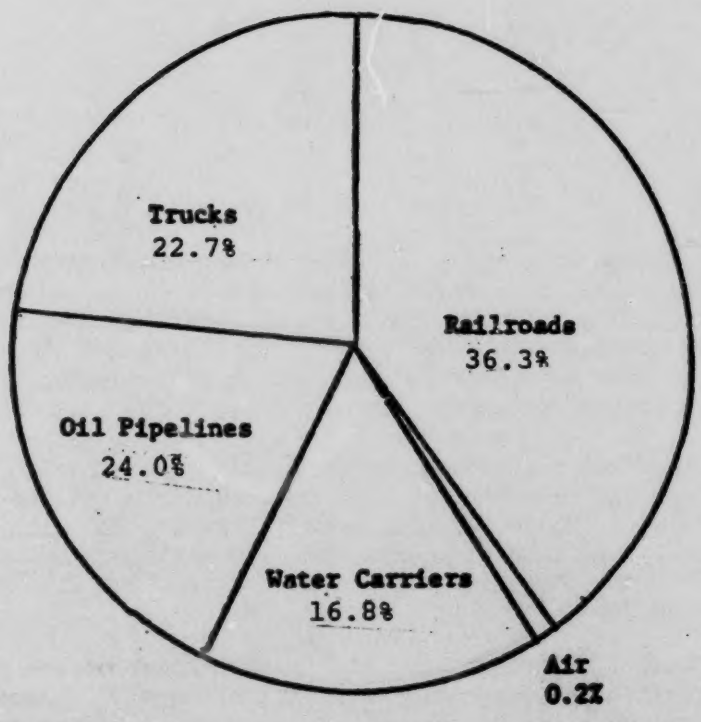
Rail Revenues Equal 1.1 Percent of GNP. (1981)

Railroads Handle 36.3 Percent of the Nation's Freight Traffic (ton-miles). (1982)

Railroads Employ 0.5 Percent of the Total Civilian Labor Force. (1981)

Railroad Investment in New Plant and Equipment Accounts for 1.4 Percent of Total Private Investments. (1982)

Intercity Ton-Miles, 1982



Source: Association of American Railroads and Transportation Policy Association.

Table I-2

THE NUMBER OF RAILROADS HAS DECLINED

Year	Class I Line-Haul Railroads	Other Line-Haul Railroads	Switching & Terminal Companies	Total
1920	186	686	245	1117
1925	174	630	236	1040
1930	156	541	231	928
1935	144	451	215	810
1940	131	397	208	736
1945	130	355	213	698
1950	127	337	215	679
1955	126	310	207	643
1960	106	304	197	607
1965	76	302	190	568
1970	71	273	173	517
1975	73	245	159	477
1980	39	288	153	480
1983	31	296	142	469
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1920	100	100	100	100
1925	94	92	96	93
1930	84	79	94	83
1935	77	66	88	73
1940	70	58	85	66
1945	70	52	87	62
1950	68	49	88	61
1955	68	45	84	58
1960	57	44	80	54
1965	41	44	78	51
1970	38	40	71	46
1975	39	36	65	43
1980	21	42	62	43
1983	17	43	58	42

Notes: 1. A line-haul company conducts actual transportation services. A switching and terminal company performs switching service, furnishes terminal trackage, bridges, or other facilities such as union passenger or freight stations, operates ferries, or performs any one or a combination of these functions. It may incidentally conduct regular freight or passenger service.

2. Line-haul companies are classified on the basis of annual revenues (restated in 1978 constant dollars), as follows: Class I, $50 million or more; Class II, $10 million to $50 million; Class III, less than $10 million. Switching and Terminal Companies are classified as Class III, regardless of revenues.

3. Class I railroads account for 98 percent of the industry's traffic, 94 percent of its rail mileage, 92 percent of its employees and 95 percent of its revenues. The decline in the number of Class I railroads is attributable primarily to reclassifications and consolidations.

THE NUMBER OF RAILROAD UNIFICATIONS HAS BEEN SIGNIFICANT

Years 1957 - 1983

Effective Date of Unification	Type of Unification	Applicant Railroads	Controlling Railroads
8-31-57	Merger	Nashville, Chattanooga & St. Louis	Louisville & Nashville
1-01-58	Merger	Litchfield & Madison	Chicago & North Western
10-06-58	Control	Spokane International	Union Pacific
12-01-59	Merger	Virginian	Norfolk & Western
1-28-60	Control	Toledo, Peoria & Western	Atchison, Topeka & Santa Fe and Pennsylvania
1-01-60	Merger	Charleston & Western Carolina	Atlantic Coast Line
7-01-60	Merger	Missouri-Kansas-Texas of Texas	Missouri-Kansas-Texas
10-17-60	Merger	Erie and Delaware, Lackawanna & Western	Erie-Lackawanna
11-01-60	Merger	Minneapolis & St. Louis	Chicago & North Western
1-01-61	Merger	Minneapolis, St. Paul & Sault Ste. Marie, Duluth, South Shore & Atlantic and Wisconsin Central	Soo Line
10-31-61	Merger	Texas & New Orleans	Southern Pacific
5-17-62	Control	Lehigh Valley	Pennsylvania Railroad
2-04-63	Control	Baltimore & Ohio	Chesapeake & Ohio
6-18-63	Control	Central of Georgia	Southern
7-01-63	Control	Georgia & Florida	Southern
9-03-63	Control	Ann Arbor	Detroit, Toledo & Ironton
1-01-64	Merger	St. Louis, San Francisco & Texas	St. Louis-San Francisco
9-25-64	Control	Kansas-Oklahoma & Gulf	Texas & Pacific
10-16-64	Merger	New York, Chicago & St. Louis	Norfolk & Western
10-16-64	Control	Akron, Canton & Youngstown	Norfolk & Western
8-01-65	Merger	Gulf, Colorado & Santa Fe and Panhandle & Santa Fe	Atchison, Topeka & Santa Fe
8-12-65	Merger	Pacific Electric	Southern Pacific
1-03-67	Control	Chicago, South Shore & South Bend	Chesapeake & Ohio
5-21-67	Control	Chicago & Eastern Illinois	Missouri Pacific
7-01-67	Merger	Atlantic Coast Line, Seaboard Air Line	Seaboard Coast Line
2-01-68	Merger	Pennsylvania Railroad, New York Central	Penn Central
3-29-68	Control	Western Maryland	Chesapeake & Ohio and Baltimore & Ohio
4-01-68	Control	Erie Lackawanna	Norfolk & Western
7-01-68	Merger	Chicago Great Western	Chicago & North Western
7-01-68	Control	Delaware & Hudson	Norfolk & Western
8-01-68	Control	Alton & Southern	Missouri Pacific & Chicago & North Western[1/]
1-31-69	Merger	New Orleans & Northeastern	Alabama Great Southern
7-01-69	Merger	Piedmont & Northern	Seaboard Coast Line
3-02-70	Merger	Great Northern, Northern Pacific and Chicago, Burlington & Quincy	Burlington Northern
4-01-70	Merger	Kansas, Oklahoma & Gulf	Texas & Pacific
5-31-71	Merger	Central of Georgia, Georgia & Florida, Savannah & Atlanta and Wrightsville & Tenille	Central of Georgia
7-31-71	Merger	Monon	Louisville & Nashville
8-10-72	Merger	Illinois Central and Gulf, Mobile & Ohio	Illinois Central Gulf
6-15-73	Consolidation	Baltimore & Ohio, Chesapeake & Ohio and Western Maryland	Chessie System
1-01-74	Merger	Carolina & Northwestern	Norfolk & Southern
4-01-76	Consolidation	Central Railroad of New Jersey, Erie-Lackawanna, Lehigh & Hudson Valley, Lehigh Valley, Penn Central, Reading and Ann Arbor	Consolidated Rail Corp. (Conrail)
10-16-76	Merger	Texas & Pacific and Chicago & Eastern Illinois	Missouri Pacific
11-01-78	Merger	Abilene & Southern, Fort Worth Belt, Missouri-Illinois, New Orleans & Lower Coast, St. Joseph Belt, Texas-New Mexico and Union Terminal	Missouri Pacific
11-10-78	Control	Green Bay & Western	Itel Corp.
11-01-80	Consolidation	Chessie System and Family Lines	CSX Corp.
11-21-80	Merger	Burlington Northern and St. Louis-San Francisco	Burlington Northern
1-01-82	Merger	Burlington Northern, Colorado & Southern, Fort Worth & Denver, Burlington Northern (oregon-Washington) and Walla Walla Valley.	Burlington Northern
6-01-82	Consolidation	Southern and Norfolk & Western	Norfolk Southern Corp.
12-22-82	Control	Union Pacific, Missouri Pacific and Western Pacific	Union Pacific Corp.
1-1-83	Consolidation	Family Lines and Louisville Nashville	Seaboard System Railroad

1/ In August 1973, C&NW sold its 50 percent share to St. Louis & Southwestern.

Note: In June 1983 the ICC approved acquisition of the Boston & Maine and Delaware & Hudson by Guilford Industries, Inc.

Table I-4

EIGHT FREIGHT RAILROAD SYSTEMS ACCOUNT FOR 88 PERCENT OF TOTAL RAILROAD REVENUES[1]

(Year 1982)

Carrier	Operating Revenues (thousands)	Percent of Total	Cumulative
1. CSX	4 423 729	16.3%	16.3%
Chessie System	(2 027 884)		
Baltimore & Ohio	(899 937)		
Chesapeake & Ohio	(1 041 113)		
Western Maryland	(86 834)		
Seaboard System	(2 395 845)		
2. Burlington Northern, Inc.	3 767 163	13.9	30.2
3. Union Pacific Corp.	3 623 897	13.4	43.6
Union Pacific	(1 773 337)		
Missouri Pacific	(1 678 763)		
Western Pacific	(171 797)		
4. Conrail	3 440 472	12.7	56.3
5. Norfolk Southern Corp.	3 340 883	12.3	68.6
Norfolk & Western	(1 737 286)		
Southern	(1 603 597)		
6. Southern Pacific Transp. Co.	2 337 036	8.6	77.2
Southern Pacific	(1 996 063)		
St. Louis Southwestern	(340 973)		
7. Atchison, Topeka & Santa Fe	2 077 660	7.7	84.9
8. Illinois Central Gulf	895 862	3.3	88.2
9. Chicago & North Western	807 860	3.0	91.2
10. Chicago, Milwaukee, St. Paul & Pacific	363 549	1.4	92.6
11. Kansas City Southern	307 569	1.1	93.7
12. Grand Trunk Corp.[2]	304 025	1.1	94.8
Grand Trunk Western	(235 753)		
Detroit, Toledo & Ironton	(68 272)		
13. Denver & Rio Grande Western	292 463	1.1	95.9
14. Soo Line	284 193	1.1	97.0
15. Guilford Transp. Industries	230 626	0.9	97.9
Boston & Maine	(120 053)		
Delaware & Hudson	(110 573)		
16. Missouri-Kansas-Texas	230 048	0.8	98.7
17. Florida East Coast	91 785	0.3	99.0
18. Elgin, Joliet & Eastern	89 181	0.3	99.3
19. Bessemer & Lake Erie	82 060	0.3	99.6
20. Duluth, Missabe & Iron Range	54 320	0.2	99.8
21. Pittsburgh & Lake Erie	47 216	0.2	100.0
Total	$ 27 091 597	100.0	

1/ Excludes the Long Island Rail Road which derives 92 percent of its revenues from passenger services. The LI is owned by the State of New York.

2/ Owned by the Canadian government.

Table I-5

RAILROADS PROVIDE INTERMODAL (TOFC) SERVICE

Plan I: Railroads carry trailer or container loads of freight for motor common carriers as a flat charge per unit. The railroad has no direct contact with the shipper and merely substitutes trailer - container - on flat car transportation in place of the motor common carriers' transportation by truck. The motor common carrier solicits and bills his customers at truck rates, takes trailers or containers to and picks them up from TOFC terminals.

Plan II: This is a total railroad door-to-door transportation service. The railroad furnishes all transportation equipment, delivers the trailers or containers to shipper's loading dock and, in some cases, helps load them, transports them to its loading ramp, loads and transports them to consignee's unloading dock and sometime helps unload the units.

Plan II 1/4: Same as Plan II, except railroad either picks up or delivers the trailer or container, but not both.

Plan II 1/2: Provides for the shipper and receiver to perform pick-up and delivery of railroad owned trailers or containers with railroad performing ramping and deramping and line-haul service between ramps.

Plan III: This is a railroad transportation service restricted to ramp operations. The shipper loads his own or leased trailer or container and provides for its delivery to loading ramp. The railroad loads the trailer or container on the flat car at origin piggyback terminal, transports it to destination piggyback terminal and grounds it. Cosignee provides for pick-up at destination for delivery to his unloading dock.

Plan III-Minibridge: Containerized shipments having origin or destination from or to an international foreign port and moving by rail to or from originating or final destination U.S. ports. This rail-water service is in lieu of an all-water move.

Plan III-Landbridge: Containerized shipments moving by water into U.S. Ports for transport by rail to another port for further transport by water to destination.

Plan IV: Rail Carrier handling of loaded and empty privately owned or leased trailers and flat cars between specific points or areas under charges published in regular rail tariffs. These are flat per car charges to compensate the rail carriers for service in moving the loaded or empty trailers on flat cars and not for the commodity being shipped.

Plan V: Railroads and motor common carriers participate in a joint rail-truck transportation service at a published single factor joint through rate. Each participating carrier gets a division of the through rate.

II. CAPITAL INVESTMENT

Table II-1

RAILROAD CAPITAL EXPENDITURES ARE SPLIT
BETWEEN ROLLING STOCK AND ROADWAY AND STRUCTURES

Year	Total Capital Expenditures (million $s)	Rolling Stock (million $s)	Rolling Stock % of Total	Roadway & Structures (million $s)	Roadway & Structures % of Total
1972	$ 1 216	$ 848	69.7%	$ 368	30.3%
1973	1 342	893	66.5	449	33.5
1974	1 565	1 038	66.3	527	33.7
1975	1 790	1 303	72.8	486	27.2
1976	1 725	1 175	68.1	550	31.9
1977	2 290	1 540	67.2	751	32.8
1978	2 738	1 883	68.8	855	31.2
1979	3 325	2 285	68.7	1 039	31.3
1980	3 621	2 346	64.8	1 275	35.2
1981	2 855	1 521	53.3	1 334	46.7
1982	1 975	713	36.1	1 262	63.9

NOTE: Rolling stock includes cars, locomotive and cabooses. Roadway includes terminals, track, bridges and structures classification yards and port terminals.

Table II-2

OUTLAYS FOR RAILROAD EQUIPMENT LEASES ARE SPLIT BETWEEN LOCOMOTIVES AND FREIGHT CARS

Year	Total Outlays For Leased Equipment (million $s)	Outlays For Leased Locomotives (million $s)	Outlays For Leased Locomotives Percent of Total	Outlays For Leased Freight Cars (million $s)	Outlays For Leased Freight Cars Percent of Total
1972	$ 427	$ 157	36.8%	$ 270	63.2%
1973	331	182	55.0	149	45.0
1974	357	192	53.8	165	46.2
1975	291	75	25.8	216	74.2
1976	168	92	54.8	76	45.2
1977	306	175	57.2	131	42.8
1978	547	273	49.9	274	50.1
1979	642	448	69.8	194	30.2
1980	642	264	41.1	378	58.9
1981	346	46	13.3	300	86.7
1982	139	54	38.8	85	61.2

NOTE: Outlays for leased equipment are estimated on the basis of average per unit cost in each respective year.

Table II-3

INSTALLATIONS OF LEASED EQUIPMENT HAVE GENERALLY DECLINED

LEASED UNITS INSTALLED NEW

Year	Locomotives	Freight Cars
1972	539	14 959
1973	585	7 903
1974	568	7 591
1975	202	7 768
1976	217	2 712
1977	392	4 210
1978	466	8 342
1979	733	4 920
1980	389	8 479
1981	58	7 198
1982	67	2 289
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1972	100	100
1973	109	53
1974	105	51
1975	37	52
1976	40	18
1977	73	28
1978	86	56
1979	136	33
1980	72	57
1981	11	48
1982	12	15

Table II-4

THE NUMBER OF LOCOMOTIVES HAS REMAINED STABLE

Year	Number of Locomotives in Service 1/	Locomotives Installed 1/	New Locomotives As a Percent of Total
1972	27 358	1 577	5.8%
1973	27 790	1 339	4.8
1974	28 084	1 282	4.6
1975	28 210	810	2.9
1976	27 612	509	1.8
1977	27 667	992	3.6
1978	27 400	1 368	5.0
1979	28 097	1 978	7.0
1980	28 396	1 666	5.9
1981	27 808	686	2.5
1982	27 073	501	1.9

1/ Includes Amtrak beginning in 1972 -- Auto-Train for years 1972 - 1977.

Table II-5

THE LOCOMOTIVE FLEET IS OVERWHELMINGLY DIESEL-POWERED

Year	Locomotives in Service 1/			
	Total	Diesel	Electric	Other
1972	27 358	27 064	252	42
1973	27 790	27 540	238	12
1974	28 084	27 857	215	12
1975	28 210	27 985	213	12
1976	27 612	27 383	217	12
1977	27 667	27 450	205	12
1978	27 400	27 184	204	12
1979	28 097	27 922	163	12
1980	28 396	28 243	141	12
1981	27 808	27 732	74	2
1982	27 073	27 000	71	2

1/ Includes AMTRAK beginning in 1972--Auto-Train for years 1972-1977.

Table II-6

FORTY-SIX PERCENT OF THE PRESENT
LOCOMOTIVE FLEET HAS BEEN ADDED SINCE 1970

Age Distribution of Locomotive Fleet - (December 31, 1982)

Date Built*	Number of Locomotives in Age Bracket	Percent of Diesel Locomotives in Age Bracket
Jan. 1, 1980-Dec. 31, 1982	2 100	7.8%
Jan. 1, 1975-Dec. 31, 1979	5 063	18.9
Jan. 1, 1970-Dec. 31, 1974	5 282	19.7
Jan. 1, 1965-Dec. 31, 1969	4 889	18.2
Jan. 1, 1960-Dec. 31, 1964	2 238	8.3
Before Jan. 1, 1960	7 264	27.1
TOTAL	26 836[1]/	100.0

1/ Will not agree with total shown in Table II-5 which is from a different source.

*Disregarding year of rebuilding.

Table II-7

FREIGHT CAR INSTALLATIONS DECLINED IN THE PAST TWO YEARS

FREIGHT CARS ADDED TO FLEET

Year	Railroads	Other Railroads & "Private" Companies	Total
1972	36 994	12 988	49 982
1973	33 752	25 418	59 170
1974	33 745	33 664	67 409
1975	40 986	33 006	73 992
1976	31 757	21 873	53 630
1977	29 478	24 339	53 817
1978	29 067	41 391	70 458
1979	31 986	64 546	96 532
1980	31 006	55 622	86 628
1981	20 987	24 938	45 925
1982	6 010	12 726	18 736
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1972	100	100	100
1973	91	196	118
1974	91	259	135
1975	111	254	148
1976	86	168	107
1977	80	187	108
1978	79	319	141
1979	86	497	193
1980	84	428	173
1981	57	192	92
1982	16	98	37

NOTE: "Private" companies include shippers and car companies, some of the latter being railroad-owned.

Source: American Railway Car Institute and Transportation Division, AAR.

Table II-8

THE NUMBER OF FREIGHT CARS HAS DECLINED

Year	Number of Cars[1/]	Index
1972	1 716 937	100
1973	1 710 659	100
1974	1 720 573	100
1975	1 723 605	100
1976	1 699 027	99
1977	1 666 533	97
1978	1 652 774	96
1979	1 700 310	99
1980	1 710 827	100
1981	1 672 565	97
1982	1 587 537	92

1/ Includes cars owned by all U.S. railroads and private car lines.

NOTE: Despite the decline in the number of cars, the aggregate fleet capacity has increased by 8.5 percent since 1972.

Source: American Railway Car Institute and Transportation Division, AAR.

Table II-9

THE NUMBER OF CARS IN THE FREIGHT CAR FLEET VARIES BY CAR TYPE

Revenue Freight Cars In Service - All Railroads and Private Car Lines

Dec. 31	Plain Box	Equipped Box	Gondola	Hopper	Covered Hopper	Flat	Refrigerator	Tank	Other
1969	394 005	162 154	198 448	403 603	161 022	122 241	115 844	180 761	51 550
1970	375 668	171 237	196 231	399 498	170 742	128 359	116 026	174 749	49 512
1971	357 777	176 644	190 758	396 888	179 875	128 161	111 647	169 923	46 294
1972	340 163	181 131	188 713	383 242	186 219	125 554	107 023	162 350	42 542
1973	333 607	178 329	187 347	365 333	204 926	132 222	104 721	165 309	38 865
1974	328 028	178 169	186 720	356 626	219 362	139 186	104 024	169 237	39 221
1975	321 480	173 679	186 773	363 186	228 265	141 316	100 815	170 876	37 215
1976	302 899	171 054	185 776	365 526	230 069	141 781	98 017	168 018	35 887
1977	280 367	170 412	179 475	359 168	235 829	142 811	93 823	169 745	34 903
1978	262 986	172 685	175 777	354 006	246 087	146 402	87 601	174 170	32 980
1979	274 002	179 217	178 979	356 504	268 919	151 377	81 266	178 069	31 977
1980	251 420	179 944	184 875	347 867	299 986	152 661	79 370	183 989	30 715
1981	222 747	172 428	183 692	339 435	311 378	148 724	73 452	190 662	30 047
1982	190 620	162 349	176 931	325 642	306 222	144 508	68 043	185 838	27 384
				INDEX					
1969	100	100	100	100	100	100	100	100	100
1970	95	106	99	99	106	105	100	97	96
1971	91	109	96	98	112	105	96	94	90
1972	86	112	95	95	116	103	92	90	83
1973	85	110	94	91	127	108	90	91	75
1974	83	110	94	88	136	114	90	94	76
1975	82	107	94	90	142	116	87	94	72
1976	77	105	94	91	143	116	85	93	70
1977	71	105	90	89	146	117	91	94	68
1978	67	106	89	88	153	120	76	96	64
1979	70	111	90	88	167	124	70	99	62
1980	64	111	93	86	186	125	69	102	60
1981	57	106	93	84	193	122	63	105	58
1982	48	100	89	81	190	118	59	103	53

Source: American Railway Car Institute and Transportation Division, AAR.

Table II-10

NEARLY ONE-THIRD OF THE FREIGHT CAR FLEET
IS LESS THAN TEN YEARS OLD

Age Distribution of Railroad-owned Freight Cars-(As of January 1983)

Car Age (years)	Number of Cars in Age Bracket (thousands)	Percent of Cars in Age Bracket
0-10	359	31.7%
11-20	492	43.5
21-30	218	19.3
31-40	53	4.7
Over 40	9	0.8
Total	1 131	100.0

Source: UMLER file, Transportation Division, AAR.

Table II-11

NEW CROSSTIE AND RAIL INSTALLATIONS DECREASED IN 1982

Year	Tons of New Rail Laid	Crossties laid (thousands)
1971	648 625	22 777
1972	675 796	22 251
1973	698 506	19 893
1974	708 362	21 175
1975	537 537	20 548
1976	802 441	27 002
1977	952 144	27 270
1978	838 714	27 228
1979	1 064 827	26 667
1980	881 783	25 984
1981	800 340	26 529
1982	502 718	20 726
INDEX		
1971	100	100
1972	104	98
1973	108	87
1974	109	93
1975	83	90
1976	124	119
1977	146	120
1978	129	120
1979	164	117
1980	136	114
1981	123	116
1982	78	91

NOTE: Includes crossties and rail laid in replacement and in additional tracks, new lines and extensions.

Table II-12

RAILROAD MILEAGE HAS DECREASED

Year	Miles of Railroad Line Owned[1/]	Index
1971	205 220	100
1972	203 299	99
1973	201 585	98
1974	200 916	98
1975	199 216	97
1976	192 396	94
1977	191 205	93
1978	190 555	93
1979	184 500	90
1980	179 000	87
1981	168 000	82
1982	165 000	80

1/ Represents aggregate length of roadway of all line-haul railroads, excluding yard tracks and sidings. Jointly-used track is counted only once.

NOTE: Mileage is partially-estimated beginning with 1977.

Table II-13

COVERED HOPPERS HAVE DOMINATED FREIGHT CAR DELIVERIES IN RECENT YEARS

Car Types	Freight Car Deliveries					
	1977	1978	1979	1980	1981	1982
Boxcars	11 391	19 594	32 190	14 239	1 571	-
Flatcars	5 441	5 816	7 518	5 817	1 449	338
Gondolas	2 609	4 451	6 440	12 894	6 882	2 851
Open top hoppers	11 062	14 835	13 711	10 091	6 766	3 958
Covered hoppers	10 500	14 060	22 215	26 731	17 414	5 477
Refrigerators	1 365	500	540	992	460	150
Tank cars	7 207	8 489	9 884	10 942	8 577	4 046
Others	2 064	1 379	3 152	3 759	1 706	416
Total New	51 639	69 124	95 650	85 465	44 825	17 236
Rebuilt	2 178	1 334	882	1 163	1 100	1 500
	53 817	70 458	96 532	86 628	45 925	18 736

Source: American Railway Car Institute and Transportation Division, AAR.

Table II-14

THE 3000-HORSEPOWER UNIT WAS THE PREDOMINANT TYPE OF NEW LOCOMOTIVE INSTALLED IN 1982

Horsepower	Installed	Percent of Total
1 500	135	16.7%
2 000	45	5.5
2 250	30	3.7
2 300	10	1.2
3 000	509	62.8
3 500	50	6.2
3 600	32	3.9
Total	811	100.0

NOTE: Includes only those units for which cost data are complete. Therefore, total will not agree with installations shown in table II-4.

Table II-15

SEVENTY-FIVE PERCENT OF RAIL WEIGHS
MORE THAN 100 POUNDS PER YARD

(As of December 31, 1981)

(Pounds Per Yard)	Miles	Percent of Total Miles	Cumulative Percent
150 - 159	640.59	0.36%	0.36%
140 - 149	3 751.31	2.10	2.46
130 - 139	62 631.45	35.02	37.48
120 - 129	6 984.86	3.91	41.39
110 - 119	46 902.79	26.22	67.61
100 - 109	15 219.83	8.51	76.12
90 - 99	19 732.74	11.03	87.15
0 - 89	22 985.45	12.85	100.00
Total	178 849.02	100.00	-

NOTE: The average weight of all rail in place in 1981 was 113.24 pounds per yard.

Table II-16

FREIGHT CAR SERVICE LIFE AND SALVAGE VALUE
FLUCTUATE BY CAR TYPE

Description	Service Life	Salvage (%)	Annual Rate (%)
Plain Box Cars - 40'	24	22%	3.25%
Plain Box Cars - 50 and long Box Cars	25	19	3.24
Equipped Box Cars	26	17	3.19
Plain Gondola Cars	27	22	2.89
Equipped Gondola Cars	34	14	2.53
Covered Hopper Cars	29	17	2.86
Open Top Hopper Cars General Service	23	23	3.35
Open Top Hopper Cars Special Service	38	23	2.03
Refrigerator Cars - Non-mechanical	25	11	3.56
Refrigerator cars Mechanical	26	12	3.38
Flat Cars - TOFC/COFC	29	18	2.83
Flat Cars - Multi-level	25	11	3.56
Flat Cars - General Service	33	22	2.36
Flat Cars - Other	37	18	2.22
All Other Freight Cars (Excl. Cabooses)	30	17	2.77

Source: Interstate Commerce Commission, Ex Parte 334 (Decision August 1, 1977).

Table II-17

RAILROADS USE THREE TYPES OF EQUIPMENT FINANCING

	Equipment Trust Certificate-ETC (Philadelphia Plan)	Conditional Sales Agreement-CSA (New York Plan)	Lease Arrangement
HISTORY	Began regular use in 1870. In 1950 adopted universally accepted form.	Popularity began in early 1900's. By 1940 the ICC stopped regulating CSA's.	Started by Equitable Life in 1949. Aided by investment tax credit in 1962. First RR leveraged lease was with Chessie in 1968.
OVERVIEW	Railroad contracts with Trustee (a commerical bank) to buy equipment from manufacturer. Trustee sells ETC's to investment bank with the lowest bid. Investors purchase from investment bank. Trustee issues certificate to investors.	Railroad buys equipment from manufacturer and issues it a CSA. Manufacturer assigns CSA to a Trustee (a commerical bank). Investment bank finds investors for private placement. Trustee issues certificates to investors.	Investor buys equipment from manufacturer. Railroad makes regular payments to investor for use of equipment. Investors make use of investment tax credit, depreciation, and borrowing capacity and rent equipment to railroad. Railroad and investor benefit.
TYPICAL TERMS	Type: Serial Maturity: 15 years Equity Participation: 20% Coupon: every six months Call Provisions: non-callable	Type: Serial Maturity: 15 years Equity Participation: 0 - 20% Coupon: every six months Call Provisions: some have a pre-payment provision	Type: Various Term: one day to 20 years Initial Equity: 0% but ownership may transfer
OWNERSHIP INTEREST	Trustee retains security interest and passes title when debt is repaid.	Trustee retains security interest and passes title when debt is repaid.	Varies with lease provisions. Ownership may gradually transfer or railroad may acquire purchase options.
PRIMARY INVESTORS	Insurance companies Institutions Savings & Loans Individuals	Insurance companies Institutions	Individuals Finance companies
REGULATION	Railroad ETC's must be approved by the ICC and competitively bid. (For private car lines, approval not required).	Does not require ICC approval and is privately placed.	None
RAILROAD FINANCIAL BENEFITS	Low cost financing plus investment tax credit and depreciation write-offs.	Low cost financing, no required equity, and investment tax credit and depreciation write-offs.	No investment, limited risk, and possible lower cost. May not require capitalization on balance sheet.
INVESTOR BENEFITS	Higher yield than Treasuries with minimal additional risk. Varying maturities.	Higher yield than ETC's with minimal additional risk. Tailored to investor needs.	Provides tax shelter and leverage.
INVESTOR RISKS	Default: None Liquidity: similar to municipal bonds.	Default: None Liquidity: no active markets.	Many
PROTECTION	Section 77J of Bankruptcy Act; Section 1168 of Bankruptcy Reform Act (10/79); McHaffie Act; and Interstate Commerce Act. Plus underlying equipment value.	Section 77J of Bankruptcy Act; Section 1168 of Bankruptcy Reform Act (10/79); McHaffie Act; and Interstate Commerce Act. Plus underlying equipment value.	Underlying equipment value.

Sources: Railroad Equipment Trust Certificates, Merrill Lynch White Weld.
Railroad Equipment Obligations, M. D. Rice.
Railroad Equipment Trust Certificates, Salomon Brothers Inc.
Railroad Equipment Financing, D. M. Street.

III. COST OF OPERATIONS

Table III-1

RAILROAD OPERATING COSTS HAVE INCREASED SHARPLY

(Dollar Amounts in Millions)

Year	Labor Costs: Compensation 1/	Labor Costs: Payroll Taxes	Labor Costs: Health & Welfare, Pensions	Fuel & Power-Locomotives	Other Materials & Supplies & Misc.	Loss & Damage, Injuries & Insurance	Depreciation	Hire of Eqpt. & Jt. Facility Net Rents	Net Rent Payable-Leased Rds. & Eqpt.	Other Tax Liability	Total Expenses & Taxes
1972	$ 6 086	$ 622	$ 432	$ 469	$2 259	$470	$ 840	$ 883	-	$ 694	$12 756
1973	6 721	805	453	588	2 459	511	826	1 015	-	742	14 120
1974	7 106	1 118	491	1 143	2 920	615	833	1 056	-	873	16 155
1975	7 129	1 089	501	1 169	2 916	654	869	1 108	-	618	16 051
1976	7 850	1 263	642	1 314	3 576	671	857	1 247	-	665	18 085
1977	8 505	1 399	681	1 511	4 110	664	902	1 311	-	665	19 747
1978	9 216	1 458	722	1 556	4 373	822	975	1 488	25	685	21 319
1979	10 203	1 625	757	2 402	4 922	917	1 020	1 749	23	786	24 404
1980	10 753	1 649	797	3 341	5 376	955	1 149	1 842	29	929	26 820
1981	11 068	1 889	1 050	3 772	6 084	918	1 219	2 097	31	1 442	29 569
1982	10 460	1 953	1 058	3 104	5 014	855	1 244	2 267	70	667	26 691
	----------INDEX----------										
1972	100	100	100	100	100	100	100	100	-	100	100
1973	110	129	105	125	109	109	98	115	-	107	111
1974	117	180	114	244	129	131	99	120	-	126	127
1975	117	175	116	249	129	139	103	125	-	89	126
1976	129	203	149	280	158	143	102	141	-	96	142
1977	140	225	158	322	182	141	107	148	-	96	155
1978	151	234	167	332	194	175	116	169	-	99	167
1979	168	261	175	512	218	195	121	198	-	113	191
1980	177	265	184	712	238	203	137	209	-	134	210
1981	182	304	243	804	269	195	145	237	-	208	232
1982	172	314	245	662	222	182	148	257	-	96	209

1/ Excludes that portion of payroll chargeable to capital accounts.

Table III-2

RAILROAD OPERATING COSTS PER TON-MILE HAVE INCREASED SHARPLY

Year	Freight Service Costs 1/ (million $s)	Revenue Ton-Miles (millions)	Cost Per Ton-mile	Index
1972	$11 976	776 746	1.542¢	100
1973	13 258	851 809	1.556	101
1974	15 099	850 961	1.774	115
1975	15 204	754 252	2.016	131
1976	17 099	794 059	2.153	140
1977	18 756	826 292	2.270	147
1978	20 244	858 105	2.359	153
1979	23 114	913 669	2.530	164
1980	25 223	918 621	2.746	178
1981	27 477	910 169	3.019	196
1982	25 462	797 759	3.192	207

1/ Expenses for all years restated on basis of 1978 Uniform System of Accounts.

Table III-3

RAILROAD WAGE RATES AND FRINGE BENEFIT EXPENSES HAVE INCREASED SHARPLY

Year	Average Straight-Time Earnings Per Hour	Fringe Benefits Per Straight-Time Hour Paid For: Payroll Taxes	Fringe Benefits Per Straight-Time Hour Paid For: Health & Welfare
1972	$ 5.32	$0.586	$0.407
1973	5.83	0.772	0.434
1974	6.16	1.066	0.468
1975	6.77	1.129	0.520
1976	7.49	1.318	0.666
1977	8.15	1.470	0.716
1978	8.85	1.575	0.781
1979	9.66	1.751	0.867
1980	10.74	1.832	0.874
1981	12.07	2.379	1.324
1982	13.16	2.665	1.444
	----------INDEX----------		
1972	100	100	100
1973	100	132	107
1974	106	182	115
1975	116	193	128
1976	129	225	163
1977	140	251	176
1978	152	269	192
1979	166	299	213
1980	185	313	215
1981	207	406	325
1982	247	455	355

Source: ICC Wage Statistics, Forms A and B.

Table III-4

RAILROAD FUEL PRICES HAVE INCREASED AT A PRECIPITOUS PACE

Date	Diesel Fuel-Price Per Gallon (cents)	Index
1972	10.97	100
1973	13.49	123
1974	26.59	242
1975	30.00	273
1976	32.38	295
1977	36.38	332
1978	37.90	345
1979	57.58	525
1980	83.00	757
1981	100.23	914
1982	95.43	870

Table III-5

RAILROAD FIXED CHARGES HAVE INCREASED

Year	Long-Term Debt Due After One Year (million $s)	Interest Charges on Funded Debt (million $s)	Interest Charges As A Percent of Long-Term Debt
1972	$10 925	$ 556	5.1
1973	11 012	584	5.3
1974	11 065	628	5.7
1975	11 347	653	5.8
1976	10 268	641	6.2
1977	11 168	683	6.1
1978	11 413	768	6.7
1979	11 646	818	7.0
1980	12 626	952	7.5
1981	12 376	1 080	8.7
1982	11 712	1 040	8.9
		INDEX	
1972	100	100	100
1973	101	105	104
1974	101	113	112
1975	104	117	114
1976	94	115	122
1977	102	123	120
1978	104	138	131
1979	107	147	137
1980	116	171	147
1981	113	194	171
1982	107	187	175

NOTE: Decline in long-term debt in 1976 was due to Conrail write-offs.

Table III-6

RELATIVE FREIGHT LOSS AND DAMAGE CLAIMS HAVE DECLINED

Year	Freight Loss & Damage Claims (million $s)	Freight Loss & Damage Claims Percent of Gross Freight Revenue
1972	$235	1.74
1973	233	1.56
1974	293	1.71
1975	313	1.83
1976	266	1.36
1977	278	1.31
1978	304	1.32
1979	328	1.35
1980	324	1.08
1981	257	0.75
1982	233	0.77

Source: AAR, Freight Claim and Damage Prevention Division.

Table III-7

RAILROAD INTEREST RATES ON EQUIPMENT OBLIGATIONS HAVE INCREASED

Year	Interest Rates on New Equipment Obligations 1/
1951	2.73%
1955	3.08
1960	4.63
1965	4.52
1970	8.76
1975	8.86
1978	8.90
1979	9.85
1980	12.20
1981	14.80
1982	14.20
----------INDEX----------	
1951	100
1955	113
1960	170
1965	166
1970	321
1975	325
1978	326
1979	361
1980	447
1981	542
1982	520

Note: Beginning with 1975, data are partially estimated.

1/ Equipment trust certificates and conditional sales agreements.

Table III-8

THE COST OF RAILROAD ROLLING STOCK HAS INCREASED SHARPLY

Year	Average Cost of New Equipment[1/] Diesel Locomotives	Freight-Train Cars
1950	$140 944	$ 5 300
1955	167 758	7 839
1960	211 303	11 115
1965	219 984	15 448
1970	240 960	17 163
1975	372 000	27 777
1980	679 000	44 547
1982	623 000	37 230
	----------INDEX----------	
1950	100	100
1955	119	148
1960	150	210
1965	156	291
1970	171	324
1975	264	524
1980	482	841
1982	442	702

[1/] Weighted average of new units written into account in each respective year.

IV. DEMAND AND TRAFFIC

Table IV-1

TRANSPORTATION IS A DERIVED DEMAND

Year	GNP Economic Indicators		Total Intercity Ton-Miles (billions)
	GNP [1] (billion $s)	IIP	
1972	$2 453	100	2 073
1973	2 595	108	2 232
1974	2 578	108	2 215
1975	2 548	98	2 066
1976	2 686	109	2 209
1977	2 834	115	2 331
1978	2 976	122	2 427
1979	3 061	127	2 596
1980	3 051	123	2 503
1981	3 132	126	2 446
1982	3 073	116	2 235
	----------INDEX----------		
1972	100	100	100
1973	106	108	108
1974	105	108	107
1975	104	98	100
1976	109	109	107
1977	116	115	112
1978	121	122	117
1979	125	127	125
1980	124	123	121
1981	128	126	118
1982	125	116	108
Average Annual Increase	2.5	1.6	0.8

[1] GNP expressed in 1982 dollars.

Source: Gross National Product, Bureau of Economic Analysis; Index of Industrial Production, Board of Governors of the Federal Reserve System; and intercity ton-miles for 1977-1982, Transportation Association of America, Transportation Policy Association, and Association of American Railroads.

Table IV-2

RAILROAD DEMAND HAS LAGGED BEHIND TOTAL TRANSPORT DEMAND

Year	Total Intercity Ton-Miles (billions)	Railroad Ton-Miles [1] (billions)	Railroad Tons Originated [1] (millions)
1972	2 073	777	1 448
1973	2 232	852	1 532
1974	2 212	851	1 531
1975	2 066	754	1 395
1976	2 209	794	1 407
1977	2 331	826	1 395
1978	2 427	858	1 390
1979	2 596	914	1 502
1980	2 503	919	1 492
1981	2 446	910	1 453
1982	2 235	798	1 269
	-----INDEX-----		
1972	100	100	100
1973	108	110	106
1974	107	110	106
1975	100	97	96
1976	107	102	97
1977	112	106	96
1978	117	110	96
1979	125	118	104
1980	121	118	103
1981	118	117	100
1982	108	103	88
Average Annual Change	0.8	0.3	(1.2)

[1] Class I railroads only.

NOTE: Total intercity ton-miles for 1977-82 from Transportation Association of America and Transportation Policy Association--prior years from ICC reports.

Table IV-3

THE RAILROAD SHARE OF INTERCITY
FREIGHT TRAFFIC HAS BEEN RELATIVELY STEADY

Percentage of Intercity Ton-Miles

Year	Railroads	Trucks	Water	Oil Pipelines	Air
1972	37.8	22.7	16.3	23.0	0.2
1973	38.4	22.6	16.1	22.7	0.2
1974	38.6	22.3	16.1	22.8	0.2
1975	36.7	22.0	16.5	24.6	0.2
1976	36.3	23.2	16.9	23.4	0.2
1977	36.1	24.1	15.9	23.7	0.2
1978	35.2	24.3	16.6	23.7	0.2
1979	36.0	23.6	16.6	23.6	0.2
1980	37.2	22.7	16.4	23.5	0.2
1981	37.9	22.1	16.7	23.1	0.2
1982	36.3	22.7	16.8	24.0	0.2

1/ Includes all line-haul railroads.

Source: Data for 1977-82 from the AAR, Transportation Association of America and Transportation Policy Association-- prior years from reports of Interstate Commerce Commission and Corps of Engineers.

Table IV-4

THE RAILROAD SHARE OF INTERCITY TRANSPORTATION REVENUES HAS DECLINED

Total Revenues of ICC and CAB Regulated Carriers (millions $s) [1/]

Year	Railroads	Trucks	Water	Air	Bus	Total
1969	$11 964	$13 500	$ 450	$6 576	$1 007	$33 497
1974	17 903	22 700	879	11 663	1 359	54 504
1976	19 642	26 000	1 035	13 998	1 410	62 085
1977	21 214	31 000	924	15 934	1 387	70 459
1978	23 190	36 500	1 321	18 827	1.221	81 059
1979	26 198	41 200	1 517	22 217	1 436	92 568
1980	29 649	43 000	1 830	27 331	1 712	103 522
1981	32 407	47 100	1 873	29 497	2 077	112 954
			PERCENT OF TOTAL			
1969	35.7%	40.3%	1.4%	19.6%	3.0%	100.0
1974	32.9	41.6	1.6	21.4	2.5	100.0
1976	31.6	41.9	1.7	22.5	2.3	100.0
1977	30.1	44.0	1.3	22.6	2.0	100.0
1978	28.6	45.0	1.7	23.2	1.5.	100.0
1979	28.3	44.5	1.6	24.0	1.6	100.0
1980	28.6	41.5	1.8	26.4	1.7	100.0
1981	28.7	41.7	1.7	26.1	1.8	100.0

[1/] Excludes oil pipelines, freight forwarders and REA Express.

Source: Transportation Association of America and Transportation Policy Association.

Table IV-5

RAILROAD DEMAND FLUCTUATES AMONG COMMODITIES

(Millions of Tons Originated)

Commodity	STCC No.	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Farm Products	01	119.3	134.2	121.6	125.8	156.1	142.2	134.4	135.4	121.9	128.7	138.5	156.1	139.9	133.5
Metallic Ores	10	126.4	126.7	110.4	110.0	125.1	126.5	106.4	97.9	83.2	112.5	83.1	105.4	113.8	62.6
Coal	11	383.0	404.6	360.6	375.0	376.1	390.9	407.6	407.5	414.9	383.1	473.7	522.1	527.6	523.8
Nonmetallic Minerals	14	171.4	161.3	157.8	164.7	170.5	171.0	150.6	135.6	139.6	134.7	132.2	124.8	110.0	84.7
Food and Kindred Products	20	107.7	110.1	106.4	106.1	106.0	107.3	100.2	101.9	98.7	95.4	93.2	91.9	82.8	77.0
Lumber and Wood Products	24	99.9	101.9	104.7	110.0	108.9	105.3	88.6	99.6	99.3	95.1	92.9	85.5	80.3	65.9
Pulp, Paper and Allied Products	26	42.5	42.5	42.2	44.3	46.5	48.2	40.6	44.2	44.9	41.4	42.4	42.1	41.6	36.4
Chemicals and Allied Products	28	92.1	91.6	90.8	95.2	99.7	101.4	91.4	100.7	104.3	106.7	112.4	108.3	105.9	91.2
Petroleum and Coal Products	29	34.6	36.3	34.2	48.0	52.6	53.0	45.8	46.4	46.2	44.4	43.7	38.1	39.0	31.6
Stone, Clay and Glass Products	32	77.9	71.1	69.9	73.5	72.6	68.0	56.8	57.3	59.9	59.9	61.4	53.7	49.2	38.2
Primary Metal Products	33	87.1	82.2	72.1	60.9	71.4	70.3	51.4	53.1	55.2	60.1	63.9	52.7	53.3	32.0
Transportation Equipment	37	28.8	24.2	29.5	31.4	34.3	29.8	27.3	32.6	33.6	32.2	30.6	23.9	22.2	18.8
Waste and Scrap Material	40	41.8	39.8	37.5	39.8	44.7	48.1	38.2	37.5	36.1	37.8	38.5	34.3	34.1	22.7
							-INDEX-								
Farm Products	01	100	112	102	105	131	119	113	113	102	108	116	131	117	112
Metallic Ores	10	100	100	87	87	99	100	84	77	66	89	66	83	90	50
Coal	11	100	106	94	98	98	102	106	106	108	100	124	136	138	137
Nonmetallic Materials	14	100	94	92	96	99	100	88	79	81	79	77	73	64	49
Food and Kindred Products	20	100	102	99	99	98	100	93	95	92	89	87	85	77	71
Lumber and Wood Products	24	100	102	105	110	109	105	89	100	99	95	93	86	80	66
Pulp, Paper and Allied Products	26	100	100	99	104	109	113	96	104	106	97	100	99	98	86
Chemicals and Allied Products	28	100	99	99	103	108	110	99	109	113	116	122	118	115	99
Petroleum and Coal Products	29	100	105	99	139	152	153	132	134	134	128	126	110	113	91
Stone, Clay and Glass Products	32	100	91	89	94	93	87	73	74	77	77	79	69	63	49
Primary Metal Products	33	100	94	83	70	82	81	59	61	63	69	73	61	61	37
Transportation Equipment	37	100	84	102	109	119	103	95	113	117	112	106	100	93	65
Waste and Scrap Material	40	100	95	90	95	107	115	91	90	86	90	92	82	82	54

Source: ICC Freight Commodity Statistics.

RAILROAD DEMAND IS SOMEWHAT SEASONAL

Index of Quarterly Revenue Carloadings

Year	Quarter 1	2	3	4
1972	100	108	107	109
1973	100	106	105	105
1974	100	104	99	94
1975	100	104	101	105
1976	100	109	105	105
1977	100	111	104	100
1978	100	126	117	124
1979	100	115	110	108
1980	100	100	95	98
1981	100	92	99	94
1982	100	101	91	91
Simple Average	100	107	103	103

Table IV-7

RAILROAD DEMAND IS CONCENTRATED AMONG BULK COMMODITIES

(Year 1982)

STCC No.	Commodity	Tons Originated (millions)	Percent of Total
11	Coal	524	41.3%
01	Farm Products	134	10.5
28	Chemicals and Allied Products	91	7.2
14	Nonmetallic Minerals	85	6.7
20	Food & Kindred Products	77	6.1
24	Lumber & Wood Products	66	5.2
10	Metallic ores	63	5.0
32	Stone, Clay & Glass Products	38	3.0
33	Primary Metal Products	32	2.5
	Top Nine	1 110	87.5
	All Others	159	12.5
	Total	1 269	100.0

Source: ICC, Freight Commodity Statistics.

Table IV-8

COAL ACCOUNTS FOR 41 PERCENT OF RAIL TONNAGE
BUT ONLY 24 PERCENT OF REVENUES

(Year 1982)

STCC No.	Commodity	Percent of Total Tons	Percent of Total Freight Revenues	Rank Tons	Rank Revs.
11	Coal	41.3%	23.8%	1	1
01	Farm Products	10.5	8.7	2	4
28	Chemicals and Allied Products	7.2	11.1	3	2
14	Nonmetallic Minerals	6.7	3.2	4	11
20	Food and Kindred Products	6.0	9.8	5	3
24	Lumber and Wood Products	5.2	4.9	6	7
10	Metallic Ores	4.9	1.5	7	13
32	Stone, Clay and Glass Products	3.0	3.4	8	9
26	Pulp, Paper and Allied Products	2.9	6.5	9	6
33	Primary Metal Products	2.5	3.7	10	8
29	Petroleum and Coal Products	2.5	3.3	11	10
40	Waste and Scrap Material	1.8	1.6	12	12
37	Transportation Equipment	1.5	7.4	13	5
	Subtotal	96.0%	88.9	--	--
	All Others	4.0	11.1	--	--
		100.0%	100.0%	--	--

SOURCE: Interstate Commerce Commission, Freight Commodity Statistics.

Table IV-9

RAILROAD TRANSPORTATION OF COAL IS
CONCENTRATED AMONG SIX MAJOR RAILROAD SYSTEMS

(Year 1982)

Carrier	Tons Originated (millions)	Percent of Total
Burlington Northern	118	22.5%
Chessie System	93	17.8
Norfolk & Western	75	14.4
Family Lines	65	12.4
Southern System	40	7.7
Conrail	34	6.5
Top Six	426	81.3
All Others	98	18.7
Total	524	100.0

Source: ICC, Freight Commodity Statistics.

Table IV-10

RAILROADS ARE THE PREDOMINANT
TRANSPORTERS OF BITUMINOUS AND LIGNITE COAL

Year	Total Domestic Production (million tons)	Transported by Rail 1/ Tons (millions)	Transported by Rail 1/ % of Total Production
1972	595	400	67.2
1973	592	400	67.6
1974	603	416	69.0
1975	648	430	66.4
1976	679	430	63.3
1977	691	437	63.2
1978	665	405	66.9
1979	776	500	64.4
1980	824	548	66.5
1981	823	554	67.3
1982	829	552	66.6
----------INDEX----------			
1972	100	100	100
1973	99	100	101
1974	101	104	103
1975	109	108	99
1976	114	108	94
1977	116	109	94
1978	112	101	100
1979	130	125	96
1980	138	137	99
1981	138	139	100
1982	139	138	99

1/ Includes all line-haul railroads.

Source: Domestic Production, Department of Energy; Transported by Rail, ICC Reports. (Non Class I Railroads estimated by AAR.)

Table IV-11

THE AVERAGE PRICE OF COAL HAS INCREASED
MORE THAN RAILROAD COAL RATES

Year	Average Price of Coal Per Ton (FOB Mine)		Rail Coal Rates	
	Amount	Index	Cents Per Ton-Mile	Index
	(1)	(2)	(3)	(4)
1972	$ 7.66	100	1.25¢	100
1973	8.53	111	1.28	102
1974	15.75	206	1.48	118
1975	19.23	251	1.59	127
1976	19.43	254	1.65	132
1977	19.82	259	1.51	121
1978	21.78	284	1.81	145
1979	23.50	307	2.07	166
1980	24.65	322	2.26	181
1981	26.29	343	2.51	201
1982p	27.30	356	2.75	220

p - Preliminary.

Source: Annual price of coal from Energy Information Administration, Department of Energy, Annual Energy Review.

Table No. IV-12

REAL (CONSTANT DOLLAR) COAL RATES HAVE DECLINED

Year	Per Ton-Mile (Cents)[1] (1)	Railroad Inflation[2] (2)	Real Revenue Per Ton-Mile (Cents) (3)	Real Revenue Per Ton-Mile 1972 = 100 (4)
1972	1.25¢	100.0	1.25¢	100
1973	1.28	112.3	1.14	91
1974	1.48	128.3	1.15	92
1975	1.59	146.0	1.09	87
1976	1.65	161.7	1.02	82
1977	1.51	175.4	0.86	69
1978	1.81	190.3	0.95	76
1979	2.07	214.2	0.97	78
1980	2.26	245.7	0.92	74
1981	2.51	276.6	0.91	73
1982	2.75p	295.2	0.93	74

p - Preliminary.

[1] Interstate Commerce Commission, Carload Waybill Statistics, Report TD-1.

[2] Association of American Railroads Series QMPW from 1972 to 1977 and the Railroad Cost Recovery Index from 1977 to 1982.

Table IV-13

THE DEMAND FOR PIGGYBACK TRAFFIC HAS INCREASED DRAMATICALLY

Year	Cars Loaded in Revenue Piggyback Service	Index
1957	249 065	100
1960	554 115	222
1965	1 076 280	432
1970	1 449 519	582
1975	1 307 520	525
1978	1 840 588	739
1979	1 857 705	746
1980	1 687 121	677
1981	1 752 479	704
1982	1 920 377	771

Source: Transportation Division, AAR.

Table IV-14

TRAILERS AND CONTAINERS LOADED IN PIGGYBACK SERVICE MOVE UNDER DIFFERENT PLANS

Year	Plan I	Plan II	Plan II-1/2	Plan III	Plan IV	Plan V	Sub-Total	Not Elsewhere Classified	Grand Total
1971	150 659	596 554	921 744	53 650	113 511	45 716	1 881 834	278 904	2 160 738
1972	160 741	507 402	1 182 322	82 295	144 155	58 727	2 135 652	231 326	2 366 978
1973	183 278	488 585	1 425 746	147 061	196 534	67 823	2 509 027	209 301	2 718 328
1974	157 187	423 775	1 462 199	196 159	184 160	76 194	2 499 674	222 780	2 722 454
1975	119 453	255 339	1 215 283	199 625	163 101	71 687	2 024 488	186 447	2 210 935
1976	188 077	229 224	1 323 165	300 088	207 970	70 700	2 319 224	186 449	2 505 673
1977	281 022	216 855	1 431 568	363 814	273 143	84 348	2 650 750	148 889	2 799 639
1978	318 747	230 334	1 544 133	423 680	337 963	103 253	2 958 110	162 795	3 120 905
1979	334 850	203 391	1 563 465	482 684	346 255	101 721	3 032 366	167 580	3 199 946
1980	325 793	170 375	1 305 224	549 300	306 595	103 868	2 761 155	175 891	2 937 046
1981	367 254	148 488	1 352 491	593 800	222 361	165 456	2 849 850	181 743	3 031 593
1982	318 321	133 256	1 718 618	682 805	106 962	171 446	3 131 408	195 139	3 326 547
					INDEX				
1971	100	100	100	100	100	100	100	100	100
1972	107	85	128	153	127	128	113	83	110
1973	122	82	155	274	173	148	133	75	126
1974	104	71	159	366	162	167	133	80	126
1975	79	43	132	372	144	157	108	67	102
1976	125	38	144	559	183	155	123	67	116
1977	187	36	155	678	241	185	141	53	130
1978	211	39	168	790	298	226	157	58	144
1979	222	34	170	900	305	223	161	60	148
1980	216	29	142	1 024	270	227	147	63	136
1981	244	25	147	1 107	196	361	151	65	140
1982	211	22	186	1 273	94	375	167	70	154

NOTE: See Table No I-5 for definition of plans.

Table IV- 15

THE RAILROAD SHARE OF GRAIN TRAFFIC HAS DECLINED

Year	Billions of Bushels Moved		Percent of Total	
	Rail	Water	Rail	Water
1973	4.501	.988	82.0%	18.0%
1974	4.210	1.030	80.3	19.7
1975	4.065	1.196	77.3	22.7
1976	4.100	1.612	71.8	28.2
1977	3.911	1.524	72.0	29.0
1978	4.125	1.628	71.7	28.3
1979	4.410	1.622	73.1	26.9
1980	5.004	1.908	72.4	27.6
1981	4.379	1.986	68.8	31.2
1982	4.223	2.180	66.0	34.0
----------INDEX----------				
1973	100	100	100	100
1974	94	104	98	109
1975	90	121	94	126
1976	91	163	88	157
1977	87	154	88	156
1978	92	165	87	157
1979	98	164	89	149
1980	111	193	88	153
1981	97	201	84	173
1982	94	221	80	189

Source: Transportation Division, AAR, and U.S.D.A. Marketing Service Reports.

Table IV-16

THE RAILROAD SHARE OF MOTOR VEHICLE TRAFFIC HAS BEEN RELATIVELY STABLE

Year	New Motor Vehicles Shipped From U. S. Factories (thousands)		Percent of Total	
	Rail	Truck	Rail	Truck
1972	5 888	5 382	52.2%	47.8%
1973	6 571	6 066	52.0	48.0
1974	5 552	4 506	55.2	44.8
1975	4 816	4 169	53.6	46.4
1976	5 910	5 566	51.5	48.5
1977	6 408	6 231	50.7	49.3
1978	6 706	6 165	52.1	47.9
1979	5 717	5 739	49.9	50.1
1980	4 292	3 775	53.2	46.8
1981	4 487	3 469	56.4	43.6
1982	3 749	3 207	53.9	46.1
----------	INDEX	----------	----------	----------
1972	100	100	100	100
1973	112	113	100	100
1974	94	84	106	94
1975	82	77	103	97
1976	100	103	99	101
1977	109	116	97	103
1978	114	115	100	100
1979	97	107	96	105
1980	73	70	102	98
1981	76	64	108	91
1982	64	60	103	96

Source: Motor Vehicles Manufacturers Association of the United States.

Table IV - 17

THE DEMAND FOR SPECIFIC TYPES OF CARS
RELATES TO COMMODITY DEMAND

Commodity	Type of Car					
	Box	Covered Hopper	Flat	Gondola	Hopper	Tank
Coal				X	X	
Chemicals and Allied Products	X	X				X
Coke					X	
Crushed Stone and Gravel				X	X	
Food and Kindred Products	X					X
Freight Forwarding/ Shipper Traffic	X		X			
Grain and Grain Mill Products	X	X				
Lumber and Wood Products	X		X			
Metallic Ores					X	
Metals and Products	X		X	X		
Motor Vehicles and Equipment	X		X			
Nonmetallic Minerals		X			X	
Pulp, Paper and Allied Products	X					
Petroleum Products						X
Primary Forest Products				X	X	
Stone, Clay and Glass Products	X	X				
TOFC Traffic			X			
Waste and Scrap Materials	X			X		

Source: Merrill Lynch, Railroad Equipment (Quarterly Industry Update, June 1980) and Transportation Division, AAR.

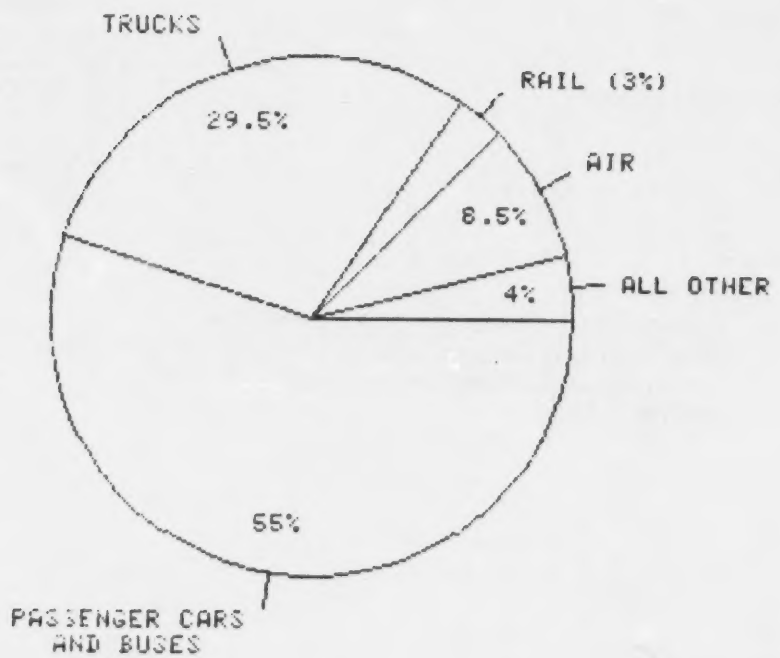
V. ENERGY

Table V-1

RAILROADS USE ONLY THREE PERCENT OF
TOTAL ENERGY CONSUMED IN TRANSPORTATION

(Year 1980)

USES OF ENERGY IN U.S. TRANSPORTATION



SOURCE: U.S. Department of Energy, National Transportation Statistics.

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Table V-2

RAILROADS ARE GENERALLY MORE
FUEL EFFICIENT THAN COMPETING MODES

Mode	Propulsion Energy Expressed in BTU's per Net Ton-Mile
Railroads	
Overall	660
Unit Coal Trains	370
Truck	
Average Intercity	2 100
Barge	
Overall	420
Upstream	580
Downstream	220
Air	
All-Cargo Plane	26 250
Other	
Coal Slurry Pipeline	1 000

Source: ENERGY USE IN FREIGHT TRANSPORTATION, Congressional Budget Office, Natural Resources and Commerce Division, February 1982.

Table V-3

RAILROAD FUEL EFFICIENCY HAS INCREASED

Year	Revenue Ton-Miles (millions)	Fuel Consumed in Frt. Serv. 1/ (million gallons)	Revenue Ton-Miles Per Gallon of Fuel Consumed	
			Ton Miles	Index
1972	776 746	3 901	199	100
1973	851 809	4 051	210	106
1974	850 961	4 023	211	106
1975	754 252	3 657	206	104
1976	794 059	3 828	207	104
1977	826 292	3 921	211	106
1978	858 105	3 898	220	111
1979	913 669	4 013	228	115
1980	918 621	3 890	236	119
1981	910 169	3 722	245	123
1982	797 759	3 104	257	129

1/ Includes a small amount of fuel used in switching passenger trains.

Table V-4

RAILROADS ARE HIGHLY DEPENDENT ON DIESEL FUEL

Year	Gallons Consumed (millions)	Index
1972	3 997	100
1973	4 161	104
1974	4 175	104
1975	3 736	93
1976	3 896	97
1977	3 985	100
1978	3 968	99
1979	4 072	102
1980	3 944	99
1981	3 756	94
1982	3 179	80

Table V-5

RAILROAD USE OF COAL HAS VIRTUALLY DISAPPEARED

Year	Domestic Production (1000 Net Tons)	Coal Used by Class I Railroads (1000 Net Tons)	Percentage Used by Railroads
1920	568 667	139 275	24.49%
1925	520 053	119 889	23.05
1930	467 527	99 539	21.29
1935	372 373	71 843	19.29
1940	460 772	79 914	17.34
1945	577 617	115 293	19.96
1950	516 311	55 452	10.74
1955	464 633	11 427	2.46
1960	415 512	39	0.01
1965	512 088	4	-
1970	602 932	1	-
1975	648 438	1	-
1980	823 644	1	-
1981	823 000	1	-
1982	829 000	1	-
	-----------INDEX-----------		
1920	100	100	100
1925	91	86	94
1930	82	71	87
1935	65	52	79
1940	81	57	71
1945	102	83	82
1950	91	40	44
1955	82	8	10
1960	73	-	-
1965	90	-	-
1970	106	-	-
1975	114	-	-
1980	145	-	-
1981	145	-	-
1982	146	-	-

NOTE: Column 1 from National Coal Association and Department of Energy.

VI. FINANCIAL PERFORMANCE

Table VI-1

RAILROAD REVENUES DECLINED IN 1982

Year	Operating Revenues Million $s	Index
1972	$13 410	100
1973	14 770	110
1974	16 923	126
1975	16 402	122
1976	18 536	138
1977	20 090	156
1978	21 721	162
1979	25 219	188
1980	28 103	210
1981	30 899	230
1982	27 504	205

Table VI-2

THE RAILROAD REVENUE MARGIN DECLINED IN 1982

Year	Rev. Per Ton-Mile	Cost Per Ton-Mile	Revenue Margin
1972	1.618¢	1.542¢	0.076¢
1973	1.617	1.557	0.060
1974	1.853	1.774	0.079
1975	2.041	2.015	0.026
1976	2.191	2.153	0.038
1977	2.286	2.270	0.016
1978	2.358	2.360	(0.002)
1979	2.599	2.530	0.069
1980	2.852	2.979	(0.127)
1981	3.178	3.019	0.159
1982	3.212	3.179	0.033

Table VI-3

RAILROAD REAL (CONSTANT DOLLAR) OPERATING INCOME
DECLINED SHARPLY IN 1982

($ amounts in millions)

Year	NROI 1/ in Current Dollars	Implicit Price Deflator For GNP	"Real" NROI
1972	$ 654	100	$654
1973	650	106	613
1974	768	115	668
1975	351	126	279
1976	452	132	342
1977	343	140	245
1978	427	150	285
1979	837	163	513
1980	1 312	178	737
1981	1 361	195	698
1982	742	207	358

1/ Net Railway Operating Income.

Source: Column 2, Bureau of Economic Analysis.

Table VI-4

RAILROAD RETURN ON NET INVESTMENT (ROI) HAS BEEN INADEQUATE

Year	Railroad ROI	ICC Approved Cost of Capital[1]
1972	2.3%	-
1973	2.3	-
1974	2.7	-
1975	1.2	-
1976	1.6	-
1977	1.2	-
1978	1.5	10.6
1979	2.9	11.7
1980	4.1	12.1
1981	3.9	16.5
1982	2.1	17.7

[1] The Interstate Commerce Commission (ICC) has determined that the criterion for revenue adequacy is a rate of return equal to the ICC-determined cost of capital. No Class I railroad achieved revenue adequacy in 1982.

Table VI-5

RAILROAD RETURN ON SHAREHOLDERS' EQUITY HAS BEEN INADEQUATE

Year	Income Before Extraordinary Items (millions)	Shareholders' Equity (End of Year) (millions)	Rate of Return on Equity
1972	$ 319	$16 110	1.98
1973	359	16 339	2.20
1974	730	14 945	4.89
1975	144	14 942	0.97
1976	355	15 230	2.33
1977	326	15 727	2.07
1978	307	16 175	1.90
1979	938	17 796	5.27
1980	1 192	19 860	6.00
1981	2 041	21 253	9.60
1982	1 152	21 349	5.40

Note: Since the cost of equity capital is greater than the cost of debt, and thus the overall cost of capital, the above returns are obviously inadequate (see preceeding table).

Table VI-6

RAILROAD RETURN ON SHAREHOLDERS' EQUITY
HAS BEEN LOWER THAN OTHER INDUSTRIES

Rate of Return on Shareholders' Equity

Year	Manufacturing Corporations	Total Leading Corporations	Public Utilities	Total Transportation	Class I Railroads 1/
1975	12.3%	11.1%	10.8%	2.3%	0.8%
1976	15.0	13.3	11.8	6.7	1.8
1977	15.0	14.0	12.1	7.0	1.9
1978	15.9	14.9	12.1	8.2	1.3
1979	18.4	16.3	12.3	7.8	5.5
1980	16.6	15.2	12.8	5.4	6.3
1981	15.7	14.6	13.8	7.2	10.2
1982	11.0	11.4	13.8	3.9	5.6

1/ Will not agree precisely with return on equity for each respective year for railroads shown in Table VI-6 which reflects late revisions in base data.

Source: Citibank, Monthly Economic Letter, April of each year.

Table VI-7

THE RAILROADS DEBT/CAPTIAL RATIO HAS DECLINED IN THE PAST FIVE YEARS

Dec. 31	Long-Term Debt 1/ (million $s)	Total Capital (millions $s)	Debt/Capital Ratio
1972	$11 547	$27 657	41.8
1973	11 524	27 862	41.4
1974	11 597	26 542	43.7
1975	12 081	27 023	44.7
1976	11 007	26 237	42.0
1977	11 966	27 693	43.2
1978	12 256	28 430	42.1
1979	12 639	30 435	41.5
1980	13 568	33 428	40.6
1981	13 379	35 104	38.1
1982	12 723	35 624	35.7
	INDEX		
1972	100	100	100
1973	100	101	99
1974	100	96	105
1975	105	98	107
1976	95	95	100
1977	104	100	103
1978	106	103	101
1979	109	110	99
1980	118	121	97
1981	116	123	91
1982	110	129	85

1/ Includes debt due in one year.

Table VI-8

RAILROAD EQUIPMENT DEBT HAS GENERALLY INCREASED

Year	Equipment Obligations Outstanding at End of Year (million $s)	Index
1972	$4 587	100
1973	4 596	100
1974	4 725	103
1975	5 179	113
1976	5 363	117
1977	5 674	124
1978	5 732	125
1979	6 116	133
1980	6 694	146
1981	6 143	134
1982	5 741	125

Table VI-9

RAILROAD COVERAGE OF FIXED CHARGES DECLINED IN 1982

Year	Income Available For Fixed Charges Before F I. T. (million $s)	Fixed and Contingent Charges (million $s)	Coverage Ratio Before F. I. T.
1972	$1 174	$ 568	2.07
1973	1 283	594	2.16
1974	1 794	637	2.82
1975	985	668	1.47
1976	1 263	656	1.93
1977	1 265	701	1.80
1978	1 438	802	1.79
1979	2 218	861	2.58
1980	2 930	1 034	2.83
1981	4 147	1 142	3.63
1982	2 465	1 086	2.27
	INDEX		
1972	100	100	100
1973	109	105	104
1974	153	112	136
1975	84	118	71
1976	108	115	93
1977	108	123	87
1978	122	141	86
1979	189	152	125
1980	250	182	137
1981	353	201	175
1982	210	191	110

Table VI-10

RAILROAD WORKING CAPITAL HAS IMPROVED

Dec. 31	Current Assets	Current Liabilities	Net Working Capital	Net Working Capital As Percent of Current Liabilities
	(millions)			
1972	$3 612	$3 672	Def.$61	—
1973	4 056	3 898	158	9.2%
1974	4 553	4 334	220	5.1
1975	4 641	4 573	68	1.5
1976	5 293	4 950	343	6.9
1977	5 986	5 415	571	10.5
1978	6 874	6 271	603	9.6
1979	7 780	7 225	555	7.7
1980	8 676	7 779	897	11.5
1981	9 665	7 973	1 692	21.2
1982	8 813	7 442	1 372	18.4

Table VI-11

COVERAGE OF RAILROAD NET WORKING CAPITAL HAS GENERALLY IMPROVED

Year	Net Working Capital	Operating Costs Per Day[1/]	Days of Coverage
	(million $s)	(million $s)	
1972	Def. $ 61	$32	(2)
1973	158	36	4
1974	220	41	5
1975	68	49	1
1976	343	55	6
1977	571	60	0
1978	603	61	0
1979	555	63	9
1980	897	69	13
1981	1 692	75	22
1982	1 372	75	18

1/ Operating costs include operating expenses (less depreciation and retirement charges), current taxes and rents.

NOTE: The increase in net working capital in recent years is due, in part, to a buildup in material and supplies inventories.

Table VI-12

THE RAILROAD CURRENT RATIO HAS BEEN RELATIVELY LOW

Dec. 31	Current Assets (million$s)	Current Liabilities (million $s)	Current Ratio
1972	$3 612	$3 672	0.98
1973	4 056	3 898	1.04
1974	4 553	4 334	1.05
1975	4 641	4 573	1.01
1976	5 293	4 950	1.07
1977	5 986	5 415	1.11
1978	6 874	6 271	1.10
1979	7 780	7 225	1.08
1980	8 676	7 779	1.12
1981	9 665	7 973	1.21
1982	8 813	7 442	1.18

1/ Includes long-term debt due within one year.

NOTE: The Interstate Commerce Commission recognizes 1.8 to be a reasonable ratio.

Table VI-13

RAILROAD INVESTMENT TURNOVER DECLINED IN 1982

Year	Operating Revenues (million $s)	Net Property Investment (million $s)	Capital Turnover Rate
1972	$13 410	$27 736	.48
1973	14 770	27 979	.53
1974	16 923	28 855	.59
1975	16 402	29 740	.55
1976	18 536	26 926	.69
1977	20 090	28 222	.71
1978	21 721	28 794	.75
1979	25 219	30 271	.83
1980	28 103	33 217	.85
1981	30 899	34 997	.88
1982	27 504	35 260	.78

Table VI-14

THE RAILROAD CASH-FLOW RATIO HAS IMPROVED

($ amounts in millions)

Year	Net Ordinary Income	Depreciation	Cash Flow	Expenditures	Cash Flow Ratio
1971	$247	$803	$1 050	$1 178	89.1
1972	319	805	1 124	1 216	92.4
1973	359	806	1 165	1 342	86.8
1974	730	819	1 549	1 565	98.9
1975	144	854	998	1 790	55.8
1976	355	837	1 192	1 725	69.1
1977	326	877	1 203	2 290	52.5
1978	307	975	1 282	2 738	46.8
1979	938	1 020	1 958	3 325	58.9
1980	1 191	1 149	2 340	3 621	64.6
1981	2 041	1 218	3 259	2 855	114.2
1982	1 152	1 244	2 396	1 975	121.3
			-INDEX-		
1971	100	100	100	100	100
1972	129	100	107	103	104
1973	145	100	111	114	97
1974	296	102	148	133	111
1975	58	106	95	152	63
1976	144	104	114	146	78
1977	132	109	115	194	59
1978	124	121	122	232	53
1979	380	127	186	282	66
1980	482	143	223	307	73
1981	826	152	310	242	128
1982	466	155	228	168	136

Table VI-15

RAILROAD BOND RATINGS HAVE IMPROVED

Class I Railroads	1975	1976	1977	1978	1979	1980	1981	1982	Sept. 1983
Atchison, Topeka & Santa Fe	AA	AA	AA	AA	AA	AA	AA	AA	AA
Baltimore & Ohio RR	BB	BB	BB	BB	BBB	BBB	BBB	BBB	A+
Boston & Maine Corp.	DD	DD	D[1]	D	D	D	D	D	D
Burlington Northern	A	A	A	A	A	A	A	A	A
Chesapeake & Ohio Ry.	A	A	A	A	A	A	A	A	A+
Chicago & North Western	B	B	B	B	B	B	B	B	B
Chicago, Milwaukee, St. Paul & Pacific	B	B	B	D	D	D	D	D	D
Chicago, Rock Island & Pacific	DDD	DDD	D[1]	D	D	D	D	D	D
Denver & Rio Grande Western	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	NR
Florida East Coast Ry.	BB	BB	BB	BB	BB	BB	BB	BB	A
Fort Worth & Denver Ry.	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	A
Illinois Central Gulf	A	A	BBB	BBB	BBB	BB	BB	BB	BB
Kansas City Southern	A	A	A	A	A	A	A	A	A
Louisville & Nashville RR	BBB	BBB	BBB	BBB	BBB	BBB	BBB	BBB	A[4]
Missouri-Kansas-Texas	B	B	B	B	B	B	B	B	B
Missouri Pacific	BBB	BBB	BBB	A-	A-	A-	A-	A-	AA
Norfolk & Western	AA	AA	AA	AA	AA	AA	AA	AA	AA
St. Louis-San Francisco	BBB	BBB	BBB	BBB	BBB	BBB	A[3]	A[3]	A
St. Louis-Southwestern	AA	AA	AA	AA	AA	AA	AA	AA	AA
Seaboard Coast Line	A	A	A	A	A	A	A	A	A
Soo Line[2]	BBB	BBB	BBB	BBB	BBB	A	AA	AA	AA
Southern Pacific	A	A	A	A	A	A	A	BBB	BBB
Southern Railway	A+	A+	A+	A+	A+	AA	AA	AA	AA
Union Pacific RR	AA	AA	AA	AA	AA	AA	AA	AA	AA
Western Pacific RR	BB	BB	BB	BB	BB	BB	BB	BB	AA

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[1] Consolidation of bankrupt issues into one category.

[2] Wisconsin Central first mortgage.

[3] Merged into Burlington Northern.

[4] Merged into Seaboard System.

NR = No Rating

Source: Standard & Poor's Bond Guide

Table VI-16

RAILROAD PRICE-EARNINGS RATIOS ARE INCREASING

Common Stock		1977	1978	1979	1980	1981	1982
Burlington Northern Inc. (NYSE-BNI)	Avg. Dividend Yield(%)	3.5%	4.3%	3.9%	2.7%	2.7%	2.9%e
	Earnings/Share($)	$2.87	$4.26	$6.56	$7.55	$7.02	$7.39
	Avg. P/E Ratio	7.9	4.6	3.9	5.6	8.0	7e
CSX Corporation	Avg. Dividend Yield(%)	-	-	-	7.0%	5.2%	6.1%
	Earnings/Share($)	$4.59	$3.37	$6.42	$7.13	$8.92	$8.10
	Avg. P/E Ratio	-	-	-	5.0	5.8	5.8
Chicago & Northwestern Transport. Co. (NYSE-CNW)	Avg. Dividend Yield(%)	0	0	0	0	0	0
	Earnings/Share($)	$3.26	$3.55	$0.50	$2.93	$3.23	$1.43d
	Avg. P/E Ratio	2.0	5.0	31.0	3.7	7.8	-
Florida East Coast Railway Co. (NYSE-FLA)	Avg. Dividend Yield(%)	0	0	0	0.7%	0.7%	0.6%
	Earnings/Share($)	$2.82	$5.66	$15.22	$2.07	$1.27	$1.36
	Avg. P/E Ratio	12.3	8.2	3.4	7.5	17.5	12.7
IC Industries, Inc. (NYSE-ICX)	Avg. Dividend Yield(%)	6.1%	6.4%	6.9%	6.0%	6.3%	7.4%e
	Earnings/Share($)	$4.55	$5.23	$5.24	$6.02	$6.65	$2.03
	Avg. P/E Ratio	5.4	4.9	5.0	5.5	5.1	15.1e
Kansas City Southern Industries, Inc. (NYSE-KSU)	Avg. Dividend Yield(%)	4.4%	4.3%	3.9%	3.3%	2.9%	2.6%
	Earnings/Share($)	$2.47	$3.93	$5.12	$3.18	$3.95	$3.35
	Avg. P/E Ratio	4.6	4.6	5.1	6.0	6.8	10.1
Norfolk Southern Corp. Railroad Co. (NYSE-NSC)	Avg. Dividend Yield(%)	N/A	N/A	N/A	N/A	N/A	5.6%e
	Earnings/Share($)	N/A	N/A	N/A	$6.75	$8.00	$6.57
	Avg. P/E Ratio	N/A	N/A	N/A	N/A	N/A	8e
Rio Grande Industries (NYSE-RN)	Avg. Dividend Yield(%)	3.0%	3.3%	3.1%	2.2%	2.4%	3.9%
	Earnings/Share($)	$3.69	$5.30	$7.41	$7.13	$7.53	$3.45
	Avg. P/E Ratio	6.8	4.8	4.3	6.4	5.9	11.1
Santa Fe Industries, Inc. (NYSE-SFF)	Avg. Dividend Yield(%)	5.5%	6.4%	5.8%	4.0%	3.8%	5.1%e
	Earnings/Share($)	$5.92	$5.96	$8.08	$3.47	$2.73	$2.08
	Avg. P/E Ratio	6.4	5.8	5.3	6.4	9.6	9e
Soo Line Railroad Co. (NYSE-SOO)	Avg. Dividend Yield(%)	8.8%	9.5%	9.6%	9.1%	8.5%	9.1%
	Earnings/Share($)	$2.48	$3.07	$3.63	$4.48	$4.79	$2.01
	Avg. P/E Ratio	5.9	5.2	5.1	5.2	5.5	13.1
Southern Pacific Co. (NYSE-SX)	Avg. Dividend Yield(%)	6.8%	7.7%	7.8%	6.8%	5.9%	7.6%
	Earnings/Share($)	$4.39	$4.31	$6.67	$5.78	$6.18	$4.31
	Avg. P/E Ratio	7.9	7.2	4.7	6.7	7.1	8e
Union Pacific Corp. 1/ (NYSE-UNP)	Avg. Dividend Yield(%)	3.5%	4.2%	3.7%	2.8%	2.8%	2.5%e
	Earnings/Share($)	$2.34	$2.78	$4.01	$4.22	$4.27	$3.38
	Avg. P/E Ratio	11.0	8.8	8.3	12.31	13.9	12e

1/ Includes Effects of Missouri Pacific and Western Pacific Acquisitions of 12/22/82

Source: Value Line and Shareholders' Report

e: Estimated

VII. RESOURCE AVAILABILITY AND UTILIZATION

Table VII-1

THE HORSEPOWER OF THE DIESEL FLEET HAS GENERALLY INCREASED

Year	Units in Service 1/	Average HP Per Unit	Aggregate Horsepower (millions)
1972	27 064	2 012	54.5
1973	27 540	2 058	56.7
1974	27 857	2 094	58.3
1975	27 985	2 121	59.4
1976	27 383	2 071	56.7
1977	27 450	2 167	59.5
1978	27 184	2 140	58.2
1979	27 922	2 188	61.1
1980	28 243	2 302	65.0
1981	27 732	2 327	64.5
1982	27 000	2 340	63.2
----------INDEX----------			
1972	100	100	100
1973	102	102	104
1974	103	104	107
1975	103	105	109
1976	101	103	104
1977	101	108	109
1978	100	106	107
1979	103	109	112
1980	104	114	119
1981	102	116	118
1982	100	116	116

1/ Includes AMTRAK beginning with 1972--Auto-Train for years 1972-1977.

Table VII-2

TRAINLOAD TONNAGE AND CARLOAD TONNAGE HAVE INCREASED

Year	Average Freight Trainload		Average Freight Carload[1/]	
	Tons	Index	Tons	Index
1972	1 774	100	56.3	100
1973	1 844	104	56.7	101
1974	1 875	106	58.4	104
1975	1 838	104	60.8	108
1976	1 954	110	61.0	108
1977	2 029	114	61.1	109
1978	2 029	114	61.8	110
1979	2 096	118	64.1	114
1980	2 175	123	67.1	119
1981	2 265	128	68.1	121
1982	2 345	132	68.3	121

[1/] ICC, Freight Commodity Statistics

Table VII-3

THE NUMBER OF CARS COMPRISING A FREIGHT TRAIN HAS REMAINED GENERALLY STABLE

Year	Cars Per Average Freight Train	Index
1972	67	100
1973	67	99
1974	66	103
1975	69	100
1976	67	100
1977	67	100
1978	67	100
1979	67	100
1980	68	101
1981	69	103
1982	69	103

Table VII-4

THE CAPACITY OF THE FREIGHT CAR FLEET HAS GENERALLY INCREASED

Year	No. of Freight Cars 1/ (millions)	Average Capacity Per Car (Tons)	Total Capacity of Freight Cars (million of tons)
1972	1.72	69.6	120
1973	1.71	70.5	121
1974	1.72	71.6	123
1975	1.72	72.9	125
1976	1.70	73.8	125
1977	1.67	75.5	126
1978	1.65	76.9	129
1979	1.70	77.7	132
1980	1.71	78.5	134
1981	1.67	80.5	134
1982	1.59	81.7	130
		-INDEX-	
1972	100	100	100
1973	99	101	101
1974	100	103	103
1975	100	105	104
1976	98	106	104
1977	97	108	105
1978	96	110	108
1979	99	112	110
1980	91	113	112
1981	97	116	112
1982	92	117	108

1/ Includes cars of all railroads, car companies and shippers.

Source: Column 1, American Railway Car Institute and Transportation Division, AAR.

Table VII-5

THE AVERAGE LENGTH OF RAILROAD HAUL HAS INCREASED

Year	Rev./Ton-Miles (billions)	Railroad Rev. Tons Carried (millions)	Railroad Length of Haul (miles)
1972	777	2 543	306
1973	852	2 701	315
1974	851	2 732	311
1975	754	2 437	309
1976	794	2 452	324
1977	826	2 439	339
1978	858	2 312	371
1979	914	2 424	377
1980	919	2 434	378
1981	910	2 377	383
1982	798	1 979	403
----------INDEX----------			
1972	100	100	100
1973	110	106	103
1974	110	107	102
1975	97	96	101
1976	102	96	106
1977	106	96	111
1978	110	91	121
1979	118	95	123
1980	118	96	124
1981	117	93	125
1982	103	78	132

Table VII-6

RAILROAD UTILIZATION OF CAPACITY HAS INCREASED

Year	Average Route Miles Operated in Freight Service (millions)	Freight Revenue Ton-Miles Per: Active Locomotive (millions)	Serviceable Freight Car (thousands)	Freight Car-Mile	Freight Train-Mile (thousands)	Per Car Loaded
1971	3.6	41.9	494	25.3	1.7	29 279
1972	3.7	42.0	527	25.6	1.7	29 755
1973	4.1	44.6	575	27.2	1.8	31 158
1974	4.1	43.5	581	27.7	1.8	32 500
1975	3.7	40.4	533	27.3	1.9	32 487
1976	4.1	42.3	577	27.8	1.9	33 852
1977	4.2	43.3	609	28.7	1.9	35 654
1978	4.5	44.6	640	29.5	2.0	36 714
1979	4.9	46.2	671	30.7	2.0	38 267
1980	5.1	49.1	681	31.4	2.1	40 628
1981	5.1	n/a	n/a	32.5	2.2	42 113
1982	4.8	n/a	n/a	33.4	2.3	43 005
		-INDEX-				
1971	100	100	100	100	100	100
1972	103	100	107	101	100	100
1973	114	106	116	108	106	106
1974	114	104	118	109	106	111
1975	103	96	108	108	112	111
1976	114	101	117	110	112	116
1977	117	103	123	113	112	122
1978	125	106	130	117	118	125
1979	136	110	136	121	118	131
1980	142	117	138	124	124	139
1981	139	n/a	n/a	128	129	144
1982	133	n/a	n/a	132	135	147

Table VII-7

RAILROAD EMPLOYMENT HAS BEEN IN A LONG-TERM DECLINE

	Number of Employees [1]	Index (1920=100)
1920 (peak year)	2 022 852	100
1929	1 660 850	82
1939	987 943	49
1949	1 191 444	59
1959	815 474	40
1969	578 277	29
1970	566 282	28
1971	544 333	27
1972	526 061	26
1973	520 153	26
1974	525 177	26
1975	487 789	24
1976	482 882	24
1977	482 731	24
1978	471 519	23
1979	482 789	24
1980	458 994	23
1981	436 397	22
1982	378 906	19

[1] Class I Railroads excluding Amtrak.

Source: ICC, Wage Statistics.

Table VII-8

RAILROAD OUTPUT PER EMPLOYEE HAS INCREASED

Year	Freight Revenue Ton-Miles Per Employee (millions)	Freight Revenue Ton-Miles Per Employee Hour Paid For
1972	1.5	637
1973	1.7	696
1974	1.7	695
1975	1.6	676
1976	1.7	712
1977	1.8	738
1978	1.9	775
1979	2.0	792
1980	2.1	862
1981	2.2	906
1982	2.2	927
----------INDEX----------		
1972	100	100
1973	113	109
1974	113	109
1975	107	106
1976	113	112
1977	120	116
1978	127	122
1979	127	124
1980	140	135
1981	147	142
1982	147	145

NOTE: Freight service employment estimated on basis of ratio of freight operating expenses to total operating expenses.

Source: ICC, Annual Reports (R-1) and Wage Statistics.

Table VII- 9

RAILROAD EMPLOYEES BELONG TO A MULTITUDE OF UNIONS

Employee Classification	BRAC	BMWE	IBEW	IBBB	BRC	IAM	SMW	IBF&O	BRS	HRE	RYA	ATDA	UTU	BLE
Clerks, Station & Tel. Employees	X													
Maintenance of Way Employees		X												
Linemen & Groundmen			X											
Blacksmiths & Boilermakers				X										
Carmen					X									
Electrical Workers			X											
Machinists						X								
Sheet Metal Workers							X							
Skilled Trades Helpers, Helper Apprentices & Regular Apprentices (ME & Stores)			X	X	X	X	X							
Coach Cleaners					X									
Stationery Engine & Boiler Room Employees, Shop & Roundhouse Laborers, Etc.								X						
Signalmen, Assistants & Helpers, Signal Maintainers, Assistants & Helpers & Gang Foremen									X					
Dining Car Employees										X				
Yardmasters & Assistants											X			
Train Dispatchers & Asst. Chief Dispatchers												X		
Road Passenger Conductors & Assts., Baggagemen, Brakemen & Firemen & Helpers													X	
Road Passenger Engineers & Motormen														X
Road Freight Conductors & Brakemen													X	
Road Freight Engineers														X
Road Freight Firemen													X	
Yard Engineers & Motormen														X
All Other Yard Service Employees													X	

Note: Three unions account for 60.3 percent of total employees. UTU - 24.4%; BRAC - 20.7%; and BMWE - 15.2%.

Source: National Railway Labor Conference.

Legend:

BRAC - Brotherhood of Railway, Airline and Steamship Clerks, Freight Handlers, Express and Station Employees.
BMWE - Brotherhood of Maintenance of Way Employees
IBEW - International Brotherhood of Electrical Workers
IBBB - International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers
BRC - Brotherhood of Railway Carmen of United States and Canada
IAM - International Association of Machinists and Aerospace Workers
SMW - Sheet Metal Workers' International Association
IBF&O - International Brotherhood of Firemen and Oilers
BRS - Brotherhood of Railroad Signalmen
HRE - Hotel and Restaurant Employees and Bartenders' International Union
RYA - Railroad Yardmasters of America
ATDA - American Train Dispatchers' Association
UTU - United Transportation Union
BLE - Brotherhood of Locomotive Engineers
(Marine employees belong to various marine unions not listed above.)

Table VII-10

THE NUMBER OF OVERHEATED JOURNALS*
HAS DECLINED SHARPLY

Year	Overheated Journals	Frt. Car Miles (millions)	Overheated Journals Per Million Car-Miles
1972	15 750	34 348	.46
1973	15 801	35 592	.44
1974	15 561	35 048	.44
1975	14 477	31 225	.46
1976	13 192	32 686	.40
1977	12 977	32 963	.39
1978	11 917	32 835	.36
1979	11 895	33 995	.34
1980	8 519	33 739	.25
1981	8 187	30 525	.27
1982	5 375	23 532	.23
	-----INDEX-----		
1972	100	100	100
1973	100	104	96
1974	99	102	96
1975	92	91	100
1976	84	95	87
1977	82	96	85
1978	76	96	78
1979	76	99	74
1980	54	98	54
1981	52	89	59
1982	34	69	50

*A freight car journal bearing overheated due to excessive friction between wheel bearing and journal, lack of lubricant or foreign matter--frequently referred to as "Hot Box".

Source: Mechanical Division, AAR.

Table VII-11

THE AVERAGE NUMBER OF FREIGHT CAR TRIPS
PER YEAR HAS DECLINED

Average Trips Per Year By Car Type

Year	Box	Covered Hoppers	Refrigerators	Gondolas	OT Hoppers	Flats	Tanks	All Cars
1971	15.2	16.6	10.3	17.6	23.8	26.5	13.2	18.2
1972	15.7	17.6	11.3	18.8	24.8	29.0	10.0	18.7
1973	16.2	17.3	11.1	20.6	27.0	29.9	10.0	19.5
1974	14.6	16.3	10.8	20.0	27.5	26.7	9.8	18.6
1975	12.2	15.2	10.3	16.5	26.4	22.1	8.5	16.6
1976	12.8	15.7	10.3	16.9	25.4	24.2	8.5	16.9
1977	12.9	15.2	9.9	16.1	23.1	25.3	8.5	16.5
1978	12.7	15.1	10.7	16.5	22.2	25.8	8.2	16.5
1979	11.7	14.3	10.2	17.3	25.5	24.3	8.1	16.5
1980	10.7	13.7	10.0	17.8	24.8	20.8	7.7	15.8
1981	9.7	11.8	8.9	17.8	25.3	21.0	7.3	15.1
1982	8.2	10.7	7.7	14.8	21.7	22.0	6.5	13.6
				INDEX				
1971	100	100	100	100	100	100	100	100
1972	103	106	110	107	104	109	76	103
1973	107	104	108	117	113	113	76	107
1974	96	98	105	114	116	101	74	102
1975	80	92	100	94	111	83	64	91
1976	84	95	100	96	107	91	64	93
1977	85	92	96	91	97	95	64	91
1978	84	91	104	94	93	97	62	91
1979	77	86	99	98	107	92	61	91
1980	70	83	97	101	104	78	58	87
1981	64	71	86	101	106	79	55	83
1982	54	64	75	84	91	83	49	75

Source: Transportation Division, AAR.

VIII. PROFILES

Profile VIII-1

THE ASSOCIATION OF AMERICAN RAILROADS
American Railroads Building
1920 L Street, N.W.
Washington, D.C. 20036

Inception

The AAR was established in 1934 as an umbrella organization consolidating a number of smaller, more specialized groups. Among its forerunners were the Master Car Builders, the General Time Convention, the American Railway Association, the Association of Railway Executives, the Railway Accounting Officers Association, the Railway Treasury Officers Association, the Bureau of Railway Economics, and the Bureau for the Safe Transportation of Explosives and Other Dangerous Articles.

Services Provided

The AAR serves its members in matters that require joint handling to better enable the railroads to contribute toward the purposes of the national transportation policy set forth by Congress. These matters include operations, maintenance, safety, research, economics, finance, accounting, data systems, and public information. In addition, the AAR represents the railroads before the courts, administrative tribunals, Congressional committees, and other governmental bodies. One of the Association's most important functions is to work with committees made up of representatives of member railroads on matters affecting the progress of the industry as a whole.

Membership (1983)

37 Class I line-haul roads in the U.S.
12 Class I line-haul roads in the U.S.
80 Class III line-haul and switching terminal roads in the U.S.
1 Leased-line railroad
5 Canadian lines
5 Mexican lines
75 Associate members

Composition of Board of Directors

The Board of Directors is composed of the Presidents, Chairmen, Trustees, Receivers and Chief Executive Officers (or other such officers or directors approved by the Board) of 19 individual railroads, and the President of the AAR who is Ex Officio Chairman.

Departmental Organization

Administrative and Executive
Legislative
Research and Test
Economics and Finance
Operations and Maintenance
Law
Information and Public Affairs
Intermodal Policy Studies Group

Subsidiary Organization

RAILINC

Profile VIII-2

AMERICAN SHORT LINE RAILROAD ASSOCIATION
2000 Massachusetts Avenue, NW
Washington, D.C. 20036

Inception

In 1913, representatives of 22 short line railroads organized the Short Line Railroad Association of the Southeast. Accumulated experience led to the general belief that this Association should become national in scope, and subsequently the name was changed to The American Short Line Railroad Association. The general office of the Association was established in Washington, D.C. in 1917.

Services Rendered

Services provided by the ASLRA for its nationwide membership include keeping them informed of all proposed rules and regulations and matters of current interest; statutory agent functions; legal consultation pertinent to proceedings before the various agencies; representation before the various Governmental bodies and Committees of Congress on pending and proposed legislation; retention of a close relationship with the Association of American Railroads through membership on the various AAR Committees; and nationwide representation on all rate associations to insure protection of member lines' interests on traffic-related subjects.

Membership (October 1983)

263 railroads

Source: American Short Line Railroad Association.

Profile VIII-3

FRUIT GROWERS EXPRESS
1625 K Street, NW
Washington, D.C. 20006

Inception

Fruit Growers Express was incorporated March 18, 1920.

Ownership

Ten railroads.

Operating Characteristics

Fruit Growers Express supplies refrigerator cars and piggyback trailers and furnishes protective services to railroads for transportation of perishables. It also owns car shops for building and repair of cars.

Equipment Ownership (12/31/82)[1/]

10,713 refrigerator cars
544 refrigerated trailers

Financial Data (1982)

($ amounts in thousands)

$166,841 - Total Assets
89,976 - Total Liabilities
76,865 - Stockholders' Equity
53,838 - Total Revenues
49,478 - Costs and Expenses
3,759 - Net Earnings

1/ Two other railroad-owned refrigerator car companies--Fruit Express and Merchants Despatch Transportation Corp.--also own refrigerated equipment.

Source: Annual Stockholders' Report.

Profile VIII-4

NATIONAL RAILWAY LABOR CONFERENCE
1901 L Street, N.W.
Suite 500
Washington, D.C. 20036

Inception

NRLC was established in Chicago, Illinois, October 2, 1962, and became operational January 1, 1963. It moved to Washington, D.C., in September 1968.

Services Provided

NRLC represents the railroad industry in bargaining of national labor issues. It advises railroads on labor related matters, including the interpretation of contracts. NRLC frequently presents testimony before Congressional committees. The scope of its representation of the industry extends to virtually all railroads, except Amtrak.

Source: National Railway Labor Conference.

Profile VIII-5

RAILROAD TARIFF BUREAUS

There Are Three Major Tariff Bureaus[1/]

Traffic Executive Association
Eastern Railroads
1250 Broadway
New York, NY 10001

Southern Freight Association
151 Ellis Street, N.E.
Atlanta, GA 30335

Western Railroad Traffic Association
222 South Riverside Plaza
Suite 1200
Chicago, IL 60606

Most railroad rates are published in a bureau tariff, which, in effect, is the price list for all lines operating in a territory.

There Are Five Major Tariff Territories

Eastern Territory
Southern Territory
Western Territory
Southwestern Territory
Mountain-Pacific Territory

[1/]There are also other smaller tariff bureaus in the West.

Source: Various.

Profile VIII-6

RAILROAD RETIREMENT BOARD
844 Rush Street
Chicago, Illinois 60611

Background

The first Railroad Retirement Act, enacted on June 27, 1934, was declared unconstitutional by the Supreme Court before it became operational. A new retirement bill was enacted on August 29, 1935. This bill was also challenged on the grounds that neither the railroads nor the employees could be forced to contribute to annuity payments. At the suggestion of President Roosevelt, the President of the Association of American Railroads and the Chairman of the Railway Labor Executives' Association formed a joint conference to work out a solution to the pension issue. The conference's proposals resulted in the Railroad Retirement Act of 1937. Since that time, there have been many amendments and additions to the Act.

Functions of the Board

The Board's major function is to administer, under Federal control, a retirement, unemployment and sickness benefit system covering railroad workers engaged in interstate commerce, and employees of railroad labor organizations and their subordinate units, and railroad associations.

Source: Railroad Retirement Board, 1955 Annual Report.

Profile VIII-7

RAILWAY PROGRESS INSTITUTE
700 North Fairfax Street
Alexandria, Virginia 22314

Inception

Organized as the Railway Business Association in 1908, the name was changed to Railway Progress Institute in 1955.

Services Provided

The Railway Progress Institute is a national association that represents about 150 railroad equipment and supply companies. Primarily, the Institute's services relate to governmental affairs and technical operations in connection with the Association of American Railroads.

Source: Railway Progress Institute.

Profile VIII-8

TRAILER TRAIN
300 South Wacker Drive
Chicago, Illinois 60606

Inception

Trailer Train was created November 9, 1955 and began operations March 17, 1956, predicated upon a need to meet public demand for TOFC service with emphasis on uniform design characteristics to permit expeditious interchanging of traffic. Trailer Train commenced operations with a fleet of 500 cars. The fleet was expanded in the early 1960's to include double and triple deck rack cars for the transportation of new automobiles. Other specialized flat cars were added in subsequent years.

Ownership

32 railroads.

Operational Characteristics

Trailer Train's free-running fleet is available to railroads upon demand. This provides access to a large fleet of cars without incurring long-term financial obligations. Car-hire rates are priced at levels below ICC rates.

Size of Fleet 12/31/82

90,094	TOFC Flat Cars
24,925	Box Cars
3,998	Gondolas
119,017	

Financial Data (1982)

($ amounts in thousands)

$1,278,805	- Total Assets
873,030	- Total Liabilities
405,776	- Stockholders' Equity
392,763	- Operating Expenses
154,463	- Car Maintenance
1,561	- Net Income

Subsidiaries

"Railbox" was established in 1974 to provide fleet of free-running box cars. "Railgon" was formed in May 1979.

Source: Annual Stockholders' Report.

PROFILE VIII-9

RAILWAY ENGINEERING-MAINTENANCE SUPPLIERS ASSOCIATION

5600 Marina Drive

Holmes Beach, Florida 33510

Inception

Railway Engineering-Maintenance Suppliers Association, Inc. (REMSA) is the outgrowth of two predecessor associations, National Railway Appliances Association and Association of Track & Structure Suppliers. NRAA, under several different names had been in existence since 1894; AT&SS since 1914. These two associations were merged into REMSA in 1965.

Services Rendered

As stated in the Constitution & By-Laws of REMSA, the "purpose of this organization shall be to promote the welfare of transportation industries in carrying on the activities of its predecessors. Its activities shall be wholly educational , looking to the greatest advancement in the efficiency, safety, maintenance and operation thereof. It will cooperate in the development of conventions of Engineering, Maintenance, Research and Scientific Associations, and shall sponsor and hold Exhibitions of equipment, appliances and supplies held in conjunction with these meetings."

Membership

Membership is limited to corporations, firms and individuals engaged in the manufacture or sale of transportation equipment, appliances and supplies; engineers or contractors engaged in construction and/or maintenance of track facilities; also, publishers of the technical press and others associated with the transportation industry.

Source: Railway Engineering-Maintenance Suppliers Association.